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ABSTRACT

The impact of two levels of infant organization and marital satisfaction on parent-infant interaction patterns was investigated in 25 couples. It was predicted that (1) disorganized infants would have a negative impact on the parent-infant relationship, and that (2) parent-infant interaction with disorganized infants would be more negative among parents having low, rather than high, marital satisfaction. One-month-old infants were classified as either organized or disorganized using Factor II from the factor analysis of the Brazelton Neonatal Behavioral Assessment Scores. Marital satisfaction was assessed by the combined index of the Locke-Wallace Marital Adjustment Test and the Areas of Change Questionnaire. Three-minute videotapes of face-to-face interaction between the infants and each of their parents separately were coded for facial expressions and attentiveness as a measure of infant-parent responsiveness. The results of this coding were then analyzed using six variables of reciprocal communication patterns between parent and infant. Although the findings were not significant, they lent support to the predictions: the most negative interaction scores (measured by ratio of gaze to avert time and number of initiations of communication) occurred among family triads which had a disorganized infant and had parents with low marital satisfaction; the highest interaction scores occurred among family triads which had organized infant/high marital satisfaction parents. In addition, it was found that, as a group, couples with high marital satisfaction had the least amount of variance on their parent-infant interaction scores and that fathers, rather than mothers, seemed to be more affected by the organizational level of their infant.
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AN ANALYSIS OF MARITAL AND INFANT FACTORS IN
EVOLVING FAMILY RELATIONSHIPS

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As our model indicates, the birth of an infant radically alters the marriage relationship and significantly complicates communication patterns within families. The implication in the marital satisfaction literature is that an infant competes with some of the needs in the marital relationship and thus has a major impact on the couple's relationship. What is missing in this literature is an understanding of the interaction between marital satisfaction and infant characteristics, as well as an analysis of the impact of the parent's changed attitudes and altered emotions on the developing infant.

Similarly, the infancy research typically takes a limited view of the infant's role in the family system. Studies clearly illustrate individual differences between infants (Thomas, Chess & Birch, 1963; Korner, 1970, 1971; Korner and Grobstein, 1967), and document the mutual exchange between neonates and their caretakers depending on the caretaker's sensitivity (Sander, 1964) and the clarity of the infant's communication (Korner, 1964). The developmental progression of this mutual regulation is typically studied in the face-to-face interaction literature which postulates that mothers and their two to three month-old infants have more mutually satisfying and more prolonged interactions when the mother is sensitive to the infant's cueing system (Brazelton, Koslowski & Main, 1974; Brazelton, Tronick, Adamson, Als & Wise, 1975) and that the infant's gaze patterns play a major role in determining the sequence of the interaction (Stern, 1974). The exclusive interest in the mother-infant dyad has recently expanded to incorporate

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the father, the forgotten contributor to a child's development (Lamb, 1975). Studies have found that infants become equally attached to their fathers and mothers at approximately the same time (Lamb, 1977), but that fathers typically contribute different experiences to the child's development (Yogman, 1977; Lamb, 1976, 1977a, 1977b; Clarke-Stewart, 1977). With the realization that both mothers and fathers play a significant role early in the infant's development, researchers have begun to analyze a few aspects of the triadic relationship between mother, father, and infant. The literature indicates that the presence of the father significantly depresses the mother's play, verbal interactions, and responsiveness (Clarke-Stewart, 1977), and only among parents who are critical with each other does an elevation in negative interactions with the child occur (Pedersen, Anderson & Cain, 1977).

The infant literature has begun to probe the contributions of mothers and fathers to their infant's development but generally assumes that the parent's marital relationship provides a constant support system for all parents. The present study seeks to explore the emerging parent-infant relationship within the context of marital satisfaction while considering simultaneously the specific characteristics of the infant. It is our first attempt to unravel the complexities of this triadic system at one month of age and therefore this presentation consists of analyses which are generally exploratory in nature.

The data described here focus on 25 couples from the sample used in the multitrait-multimethod study reported by Patrick Brady. The infants were classified as organized or disorganized using Factor II from the factor analysis of the Brazelton Neonatal Behavioral Assessment Scores which were averaged across 3 and 15 days. This variable was selected as having the greatest impact on the emerging parent-infant relationship based on previous

findings concerning the positive relationship between maternal views of infants and mutual gaze patterns at one month of age (Moss & Robson, 1968).

Marital satisfaction was assessed by the combined index of the Locke-Wallace Marital Adjustment Test (1959) and the Areas of Change Questionnaire (1973). Based on a median split, the couples were divided into groups of low and high marital satisfaction. Social desirability as measured by scores on the Marlowe-Crowne Scale (1964) were not significantly different for the two couples.

To assess the parent-infant relationship, the infant at approximately one month was videotaped with each parent separately for approximately three minutes in face-to-face interaction. The tapes were then coded at approximately one-seventh real time using a coding scale which focused on attentiveness and facial expressions. This scale was designed to capture the degree of responsivity between parent and infant and, therefore, both modalities followed a uniform pattern: 1) off; 2) partial off; 3) neutral; 4) partial on; and 5) on. Trained coders rated every second of each three-minute episode using specially designed keyboards and an Esterline-Angus event recorder. One coder rated the segment for parent and infant attentiveness and a second coder simultaneously rated parent and infant for facial expressions. All episodes were randomly assigned by subject, parent, and coder. Every segment was rated twice for each modality so that interobserver agreement could be monitored continuously. Interobserver agreement scores averaged .87 for mother-infant behaviors and .89 for father-infant behaviors.

The results of the coding were then analyzed using six variables which capture several aspects of reciprocal communication patterns between parent and infant. The variables were: 1) the ratio of total time spent in gaze with positive or neutral infant facial expression over the total time spent

averting; 2) the number of transitions to gaze when the infant was in a neutral or positive facial expression; 3) the number of transitions to avert; 4) the longest gaze segment during the episode with positive or neutral infant facial expression; 5) the longest avert during the episode; and 6) the ratio of longest gazes with positive facial expressions to the longest avert. These factors are similar to those developed by Fogel (1977) and Stern (1974) but four of our variables add the dimension of facial expressions. We felt the emotions as expressed through infant facial expression made the variables more meaningful when analyzing interaction patterns.

Based on our conceptual model, we predicted that although infants obviously alter interactions with their parents, the most negative impact on the parent-infant relationship would exist if the infant were disorganized and therefore difficult for the parent to cope with. This disruption would be evident in a more negative style of interaction between parent and infant, i.e., averting for longer periods of time, with a higher percent of the total sequence spent averting from the parent's attention. However, if the disorganized infant had parents with low marital satisfaction, we predicted that the parent-infant interaction would be significantly more negative than if the parents had a high level of marital satisfaction since in that case both infant and parent would be struggling to cope with their own needs.

A two (marital satisfaction) x two (infant organization) MANOVA was computed for the parent-infant interaction variables. Although the multivariate analysis of variance approached significance, this analysis which looks at linear combinations of dependent variables tends to obscure the findings on particular contributions for each parent-infant dyad. I have, therefore, chosen to highlight a few of our findings which pertain most

directly to the questions of interest.

A general pattern emerged across most of the parent-infant interaction variables for both mothers and fathers. The most negative scores, that is the smallest ratio of gaze to avert time and the smallest number of initiations of communication, occurred among family triads which had a disorganized infant and had parents with low marital satisfaction. The reverse was also true. Parents who reported high levels of marital satisfaction and had an organized infant tended to engage in the most positive interaction patterns regardless of which parent was interacting with the infant. Thus, these organized infants with maritally satisfied parents were spending a larger proportion of time positively interacting with their mothers and fathers than were any of the other infants. Although these trends can only be viewed as suggestive, they lend support to our original predictions and seem relevant clinically.

A second distinctive pattern emerged in the results. Couples with high marital satisfaction generally as a group had the least amount of variance in their parent-infant interaction scores whereas dissatisfied couples had much higher levels of variance. For these latter couples, therefore, the transition to parenthood seemed to be more affected by the kind of infant they were adapting to in their transition from dyad to triad. Most importantly, the highest levels of variance in the parent-infant interaction variables were characteristically among couples with low marital satisfaction and an organized infant. Based on predictions from our model, we reviewed the individual scores on each of the six parent-infant interaction variables for this group. We found a bimodal distribution characterized at one extreme by an avoidant interaction pattern and at the other extreme by a strikingly synchronous, reciprocal interaction pattern. The husband and wife in this

second subgroup act in what appears to be a compensatory mode, perhaps looking to the infant to supply gratification for what is lacking in the marital relationship. The long range impact of that pattern of interaction on the infant's development; however, is not clear. Our model leads us to speculate that parents with these infants may be overprotective or over-invested in the relationship thus limiting normal disengagement of parent and infant later in life.

A third important pattern emerged. For father-infant interaction variables, but not for mother-infant variables, a trend toward a significant main effect for infant organization ($p < .061$) appeared. The longest gaze duration with positive or neutral infant facial expressions was significant for the father in terms of infant organization ($p < .055$), and significant trends existed for the ratio of total gaze time to total avert time ($p < .08$) and for the ratio of longest gaze duration to longest avert duration ($p < .066$). Thus fathers rather than mothers seemed to be more affected by the organizational level of their infants.

In summary, we predict that the patterns described earlier in this presentation will persist over time and perhaps become more distinct at our eight-week analysis of the parent-infant interaction. That is, we believe that triads with the combination of a disorganized infant and parents with low marital satisfaction will maintain a negative interaction pattern of more averting from the parent, fewer initiations of contacts with the parent, and so forth. We also predict that the parents who are satisfied in their marriage and have an organized infant will sustain positive interactions with their infant. We also feel that more indepth analysis of the triads with low marital satisfaction and an organized infant is essential to understanding the two subgroups within that category.

Upon completion of this first exploration of our data, we anticipate that the patterns described earlier in the four groups of triads will become even more clear once we can incorporate couple classification by their skillfulness in problem solving based on observational coding of marital discussions rather than, as in this study, our self-report data.

Our data suggest that research cannot look at the dyadic relationship without simultaneously considering some of the triadic patterns of interaction. The characteristics of the infant seem to modify how available the infant is for face-to-face interaction regardless of the parent's sensitivity to their infant. In addition, from the parent's perspective, satisfaction in the marriage relationship seems to alter interaction with the infant depending on the infant's organization level.

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